



LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING

*A communication from the Chief of Engineers, dated the 14th inst., covering copy of report from Col. John Newton, Corps of Engineers, with accompanying map, upon the completion of the survey of Harlem River, New York, and through Harlem Kills to the East River, New York.*

DECEMBER 19, 1881.—Referred to the Committee on Commerce and ordered to be printed.

WAR DEPARTMENT,  
*Washington City, December 16, 1881.*

The Secretary of War has the honor to transmit to the United States Senate, for the information of the Committee on Commerce, a communication from the Chief of Engineers dated the 14th instant, covering copy of report from Col. John Newton, Corps of Engineers, with accompanying map, upon the completion of the survey of Harlem River, New York, and through Harlem Kills to the East River, New York, made in compliance with the requirements of the river and harbor act of March 3, 1881.

ROBERT T. LINCOLN,  
*Secretary of War.*

The PRESIDENT *pro tempore*  
*of the United States Senate.*

OFFICE OF THE CHIEF OF ENGINEERS.  
UNITED STATES ARMY.  
*Washington, D. C., December 14, 1881.*

SIR: To comply with the requirements of the river and harbor act of March 3, 1881, I have the honor to submit herewith a copy of a report to this office from Col. John Newton, Corps of Engineers, of the completion of the survey of Harlem River, New York, and through Harlem Kills to the East River, with accompanying map.

Very respectfully, your obedient servant,

H. G. WRIGHT,  
*Chief of Engineers, Brig. and Bvt. Maj. Gen.*

Hon. ROBERT T. LINCOLN,  
*Secretary of War.*

## COMPLETING SURVEY OF HARLEM RIVER AND THROUGH THE HARLEM KILLS TO THE EAST RIVER, NEW YORK.

UNITED STATES ENGINEER OFFICE,  
New York, October 8, 1881.

GENERAL: I have respectfully to report upon "completing survey of Harlem River and through the Harlem Kills to East River," as directed by the harbor and river act March 3, 1881, and to subjoin estimates for the proposed channel through the Harlem Kills.

The object of improving the channel through the Harlem Kills is to form a shorter and more convenient passage from the Harlem into the East River, than by following the course of the former to the present junction of the two rivers south of Ward's Island.

The proposed pier and bulkhead lines are laid down on the tracing sent herewith, leaving between these a channel way of 300 feet in width.

## ESTIMATES FOR CHANNELS 300 FEET WIDE, 3,400 FEET LONG, AND FOR 18, 15 AND 12 FEET IN DEPTH AT MEAN LOW-WATER.

For a depth of 18 feet:	
Removal of mud, sand, gravel, &c., 238,400 cubic yards, at 75 cents .....	\$178,800
Removal of rock, 275,800 cubic yards, at \$12.....	3,309,600
Total.....	<u>3,488,400</u>
For a depth of 15 feet:	
Removal of mud, sand, gravel, &c., 210,300 cubic yards, at 75 cents.....	\$157,725
Removal of rock, 170,557 cubic yards, at \$12.....	2,046,684
Total.....	<u>2,204,409</u>
For a depth of 12 feet:	
Removal of mud, sand, gravel, &c., 172,300 cubic yards, at 75 cents.....	\$129,225
Removal of rock, 86,000 cubic yards, at \$12.....	1,032,000
Total.....	<u>1,161,225</u>

It is possible that a more elaborate survey than the funds devoted to the object warranted might diminish the estimate for rock excavation by proving the existence of large amounts of loose stone which could be removed at a much diminished cost.

For vessels propelled or towed by steam the channel might be reduced to a width of 200 feet at a proportionate diminution of cost.

It is thought that the depth of 15 feet would be sufficient; at all events, such depth would prove a great benefit to navigation.

Respectfully submitted.

JOHN NEWTON,  
Colonel of Engineers.Brig. Gen. H. G. WRIGHT,  
Chief of Engineers, U. S. A.

# SOUNDINGS.

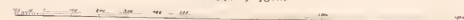
Soundings are expressed in feet and tenths and refer to Mean Low Water.

The 3 foot contour is shown thus

- 6 -	—
- 9 -	—
- 12 -	—
- 15 -	—
- 18 -	—

## Map of a Survey of HARLEM KILLS NEW YORK HARBOR made under the direction of COL. JOHN NEWTON, U.S. Eng'r. August 1887.

Scale 1:18000



# TIDES

Mean Rise and Fall of Tides

5.3 ft

Note  
All Surface Soundings are shown in Black.  
Bottom Soundings in Red.  
Soundings & Bottoms which indicate Rock are shown in Red.  
Vegetation in Blue.

Abbreviations of Bottom  
sd sand  
gr gravel  
sh shales  
br boulder  
ml mud

RANDALLS ISLAND

LONG ISLAND SOUND

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